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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.       | CONFIRMATION NO. |
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| 10/801,453   | 03/15/2004  | Ole Simonsen         | 10327.200-US              | 3244             |
| 25908 7590 01/16/2007<br>NOVOZYMES NORTH AMERICA, INC.<br>500 FIFTH AVENUE<br>SUITE 1600<br>NEW YORK, NY 10110 |             |                      | EXAMINER<br>KUMAR, PREETI |                  |
|  |             |                      | ART UNIT<br>1751          | PAPER NUMBER     |
| SHORTENED STATUTORY PERIOD OF RESPONSE   |             | MAIL DATE            | DELIVERY MODE             |                  |
| 3 MONTHS   |             | 01/16/2007           | PAPER                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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## Office Action Summary

Application No.

10/801,453

Applicant(s)

SIMONSEN, OLE

Examiner

Preeti Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19, 21 and 23 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 17, 19, 21 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/15/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions-Response to Arguments***

1. Applicant's election with traverse of Group I, in the reply filed on 11/29/2006 is acknowledged. The traversal is on the ground(s) that claim 17 was improperly included with the group II( process) and should have been included with the group I composition. Also the traversal is on the grounds that the preliminary amendment filed 11/29/2006 obviate the restriction and all claims should now be examined. Applicants arguments are found persuasive in part. Claim 17 will be examined with the composition of group I. However, Applicants amendement to claim 14 process dependent on the composition of claim 1, does not obviate the restriction requirement, because the composition of group I and the process of making the composition are independent or distinct inventions since the the product as claimed can be made by another and materially different process (MPEP § 806.05(f) and there would be a serious burden on the examiner if restriction is not required because the inventions require a different searches (see MPEP § 808.02), thus, restriction requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-13 and 17, 19, 21 and 23 are pending. Claims 14-16 are withdrawn from consideration as being drawn to a nonelected invention. Claims 18, 20, 22, and 24-25 are cancelled.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-13 and 17, 19, 21 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding all pending claims, the court has held that compositions are indefinite for being defined in terms of properties alone. *Ex parte Spacht*, 165 USPQ 409 (PO BdPatApp 1969); *Ex parte Slob,* 157 USPQ 172 (PO BdPatApp 1967); *Ex parte Pulvari*, 157 USPQ (PO BdPatApp 1966). Furthermore, it is indefinite what exactly are a), b) and c) in the wax composition and if they are one and the same, 2 different or 3 different wax components?

Specifically claim 6 recites a melting range without an actual range.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-13 and 17, 19, 21 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Markussen et al. (WO 89/08694).

Markussen et al. teach a detergent enzyme product comprising a core of an enzyme containing material with a coating containing a mono and/or diglyceride of a fatty acid, with a content of monoglyceride in relation to the total amount of mono and diglyceride of at least 30% by weight and with a melting point above 35C. Due to the coating the enzymatic stability is enhanced. See abstract.

Markussen et al. teach that the coating agent has a melting point above 35C, preferably above 50C. See page 5, line 10.

In examples 1 and 2 on pages 9-10, Markussen et al. illustrate a mixture of 1) around 90% of monoglyceride of palmitic acid and stearic acid and around 10% of diglyceride of palmitic acid and stearic acid. In examples 2 and 3, Markussen et al. illustrate a mixture with PEG 4000. The weight of the coating is between 0.1 and 100% by weight of the core. See page 5, line.30-35.

Markussen et al. are silent as to the claimed weight ratio of the waxes in the coating. However, it is reasonable to presume that said limitations are encompassed by the invention of Markussen et al. because the presumption is supported by the use of similar materials (i.e. glycerides and PEG) and in the similar production steps (i.e. coating an enzyme protein) to produce the encapsulated granule having the claimed melting point. The burden is upon the applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. Accordingly, the teachings of Markussen et al. anticipate the material limitations of the instant claims.

In the alternative, it would have been obvious to one of ordinary skill, to optimize the claimed weight ratio of the wax coating because optimizing the ratio of the waxes to result in a coating have the desired melting point involves only routine skill in the art.

9. Claims 1-13 and 17, 19, 21 and 23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Andela et al. (WO 96/16151).

Andela et al. teach a coated enzyme granule and a method of preparing coated enzyme granules including the steps of (i) contacting enzyme granules with a coating material which is either (a) a non-aqueous liquid or aqueous emulsion thereof, or (b) an unctuous mixture comprising at least one liquid as in (a) having dissolved therein a second component having a melting point in the range 30 to 90 C, said contacting being carried out so as to provide a substantially uniform coating on said granules of said coating material at less than 25 wt.%, and (ii) contacting the granules formed in step (i) with an anti-caking agent so as to obtain free-flowing granules. See abstract.

Specifically regarding the waxes, Andela et al. teach suitable PEG are preferably greater than 1500 and specifically teach a blend of PEG 4000:400 in a liquid to solid ratio of 5:3 or 1:1 provides a homogenous coating formulation. Andela et al. also teach suitable glycerol monostearate and paraffin waxes and beeswax. See page 9,ln.5-10, lnad 20-35.

Specifically regarding the anti caking agent, Andela et al. teach fumed silica, calcium phosphate, TiO<sub>2</sub>, talcum powder, coar/cereal starch materials. See page 10,ln.30-34.

Specifically regarding the T<sub>m</sub>, Andela et al. teach that the coating composition should have a melting point in the range of 30-90 C, preferably 50-70 C. See page 9,ln.15-16.

In example 1, on page 11, Andela et al. illustrate a coated enzyme granule comprising 30g of a mixture of PEG 4000 :400 in a 3 :5 ratio at 55C and 15g of an anticaking agent. In example 2, on page 11, Andela et al. illustrate a coated enzyme granule comprising 5g of paraffin oil : glycerol monostearate in a 1:1 ratio and comprising 5 g of anticaking agent.

Andela et al. are silent as to the three distinct weight ratios of the waxes in the coating. However, it is reasonable to presume that said limitations are encompassed by the invention of Andela et al. because the presumption is supported by the use of similar materials (i.e. glycerides and PEG) and in the similar production steps (i.e. coating an enzyme protein) to produce the encapsulated granule having the claimed melting point. The burden is upon the applicant to prove otherwise. *In re Fitzgerald*, 205

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USPQ 594. Accordingly, the teachings of Markussen et al. anticipate the material limitations of the instant claims.

In the alternative, it would have been obvious to one of ordinary skill, to optimize the claimed weight ratio of the wax coating because optimizing the ratio of the waxes to result in a coating have the desired melting point involves only routine skill in the art.

10. Claims 1-13 and 17, 19, 21 and 23 are rejected under 35 U.S.C. 103(a) as obvious over Nicholson et al. (US 5, 480,577).

Nicholson et al. teach wax encapsulated particles comprising surfactant incorporated in the encapsulates in an amount of from 0.01% to about 5% by weight, preferably 0.05% to about 2% by weight, most preferably 0.1% to 1% by weight of the encapsulate (i.e., percentages based on core and about 50% coating). See col.4,ln.25-30. The surfactants usable in the present invention can be anionic, nonionic, cationic or zwitterionic in nature or soap as well as mixtures of these. Preferred surfactants are the anionics, the nonionics and/or soap. Specifically, Nicholson et al. teach nonionics comprise ethylene oxide and/or propylene oxide condensation products with alcohols, alkylphenol, fatty acids, fatty acid amides. These products generally can contain from 5 to 30 ethylene oxide and/or propylene oxide groups. Fatty acid mono-and dialkylolamides, as well as tertiary amine oxides are also included. Specific examples of nonionic surfactants include nonyl phenol polyoxyethylene ether, tridecyl alcohol polyoxyethylene ether, dodecyl mercaptan polyoxyethylene thioether, the lauric ester of polyethylene glycol, C.sub.12 -C.sub.15 primary alcohol/7 ethylene oxides, the lauric



ester of sorbitan polyoxyethylene ether, tertiary alkyl amine oxide and mixtures thereof.  
See col.4,ln.50-60.

Specifically regarding the Tmi, Nicholson et al. teach that 20% to 90% by weight of a continuous coherent waxy coating, the coating comprising one or more paraffin waxes wherein the coating mixtures has a melting point of from about 40 C. to about 50 C., a solids content of from about 35% to 100% at 40 C. and a solids content of from 0% to about 15% at 50 C., and being from 100 to 1500 microns thick. See col.6,ln.15-20.

Specifically regarding the active compound, Nicholson et al. teach that the encapsulates "solid core" materials include bleach, enzymes, peracid precursors, bleach catalysts, surfactants and perfumes. All of these materials will lose activity without a paraffin wax coating. See col.2,ln.40-60.

Nicolson et al. teach that thickeners are often desirable for liquid cleaning compositions. The amount of thickener employed in the compositions is from 0% to 5%, preferably 0.5% to 3%. Nicolson et al. teach salts of polyacrylic acid (of molecular weight of from about 300,000 up to 6 million and higher). Also, Nicholson et al. teach acrylic acid polymers that are cross-linked and having a molecular weight of about 4,000,000 are particularly preferred for maintaining high viscosity with excellent bleach stability over extended periods. See col.15,ln.21 and 46.

Nicholson et al. do not specifically teach the claimed ratio of wax composition having the claimed molecular weight distribution as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at the claimed ratio of wax composition with the claimed

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molecular weight distribution, because Nicholson et al. teach an encapsulated granule comprising similar materials (i.e. waxes and enzyme) to produce the encapsulated granule having the claimed melting point. It would have been obvious to one of ordinary skill to optimize the ratio of the waxes to result in a coating have the desired melting point.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Preeti Kumar whose telephone number is 571-272-1320. The examiner can normally be reached on M-F 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Mc Ginty can be reached on 571-272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Preeti Kumar *PK*  
Examiner  
Art Unit 1751

PK

*Douglas McGinty*  
DOUGLAS MCGINTY  
SUPERVISORY PATENT EXAMINER

*1751*